

REMARKS

The claims now in the case are claims 20-37.

The Examiner called applicant's attention to the fact that the present application was filed more than 12 months after the filing of the corresponding provisional application. This action is appreciated. Applicant realizes that the benefit of the filing date of the provisional application is not available.

The drawings were objected to as not complying with PTO standards. A new set of drawings is enclosed, which drawings comply with the PTO standards. These drawings do not contain new matter.

The specification was objected to in that an identifying numeral was obviously in error on page 15. The Examiner's obvious attention to detail is appreciated. This clerical error has been corrected in newly supplied paragraph [0067].

Original claims 1, 2, 7, 14, and 19 were rejected under 35 USC 103(a) as being unpatentable over Ryczek in view of Tuffier. The teachings of these references and the application of these teachings to the rejected claims are found on pages 2-4 of the Office Action. Further, claims 4 and 16 were rejected under 35 USC 103(a) as being unpatentable Ryczek in view of Tuffier, further in view of Day and Gilbert. Original claims 3, 5, 6, 8-13, 15, 17, and 18 were indicated as being directed to allowable subject matter. The original claims have been cancelled and replaced by new claims 20-37 without the addition of new matter. As applied to the new set of claims, the above rejections are traversed.

Claim 20 will be addressed first.

A proper determination of obviousness requires that the Examiner make four basic factual inquiries set forth in the decision of *Graham v. John Deere*, 148 USPQ 459 (Sup. CT 1966).

The first and second factual inquiries involve the scope and content of the prior art. The Ryczek reference discloses a vessel having an engine and a hull having an interior and a ceiling. It is also taught that the vessel comprises a system which comprises an air compressor which feeds air under pressure to a compression chamber, a compression chamber which feeds air under pressure to at least one inflatable airbag, and at least one inflatable airbag stored in boxes on the floor. The Tuffier reference discloses a vessel having an engine and a hull having an interior and a ceiling. It is also taught that the vessel comprises a system which comprises a source of air under pressure which feeds gas under pressure to at least one inflatable envelope stored between the floor and a rug and/or between mattresses and the supports for the mattresses. It is believed that the Examiner has properly addressed these factual inquiries.

The third Graham inquiry is the differences between the prior art and the claims at issue. The Examiner has not had an opportunity to address this issue regarding the present claims. The claims require that the inflatable airbags be stored on the ceiling of the hull. If the teachings of the prior art were followed, the resulting system would have inflatable airbags in boxes on the floor, beneath rugs on the floor, or under mattresses. Thus the difference between claim 1 and the teachings of the references, taken separately or combined, is the location of the flexible airbags.

The fourth Graham inquiry to be addressed is the level of skill of the art. The Examiner has not addressed this factual inquiry. The finder of fact is powerless to make

an ultimate determination of obviousness without a concrete determination of ordinary skill, as see *Newell Window Furnishings Inc. v. Springs Window Fashions Division, Inc.*, 53 USPQ2d 1302, 1325 (N.D. IL 1999). Is one of ordinary skill a passenger on a ship, a deck hand, a ship captain, or a nautical engineer? The Examiner is requested to identify the level of skill possessed by one of ordinary skill so that applicant has a fair opportunity to respond to the rejection.

It is applicant's position that the rejection of original claim 1 was improper on procedural grounds in that the elements required to be considered were not considered.

It is applicant's position that new claim 20 is patentable over the cited prior art in that there is no teaching or suggestion in the prior art to have the airbags stored on the ceiling. It is requested that claim 20 be indicated as allowable.

Claim 21 will now be discussed. In addition to the requirements of claim 20, claim 21 requires that there is at least one diameter restrictor/gauge track for holding the at least one inflatable airbag in an uninflated condition and allowing the at least one inflatable airbag to expand. The Examiner equated this element with the median longitudinal member found in the Tuffier reference. This rejection, as applied to claim 21, is traversed.

The envelopes of Tuffier are fixed to the longitudinal axis of the boat by means of a metal frame. Part of this metal frame is a median longitudinal member. Two flat metal rings are mounted on the median longitudinal member and are adapted to fix the frame to the keel of the boat. The median longitudinal member of Tuffier is not called a diameter restrictor gauge/track. It does not do the same thing as the diameter restrictor/gauge track required by claim 21. There is no appreciable relationship between the median

longitudinal member of Tuffier and the diameter restrictor gauge/track of the claim.

Thus, it would appear to be proper to withdraw this rejection.

Claim 22 will now be discussed. Claim 22 requires that at least one single airbag is deployed on the diameter restrictor/gauge track recited in claim 21 by at least one airbag diameter securement latch device on the interior of the hull. The Examiner indicates that the airbag diameter securement latch device of the claim is the same thing as the pocket defined by the double bottom 40 of the Tuffier reference. Clearly, the names of these elements are not the same. Also the purposes differ. The airbag diameter securement latch device of the claims attaches the flexible airbags to the diameter restrictor/gauge track and provides for controlled expansion of the bags as internal pressure increases. See page 13 of the specification in this regard. The purpose of the double bottom 40 taught by Tuffier, as explained on col. 4, lines 40-54, is to define a pocket which holds the metal frame. Slots corresponding with the median longitudinal member are placed in the bottom member of the double bottom. These slots allow the passage of rings and allow for the adjustment of the position of the rings in the slot. The rings are attached to bolts to hold the metal frame, and therefore the envelope, in place. This double bottom has nothing to do with the controlled expansion of the flexible envelope and in no way teaches or renders obvious the airbag diameter securement latch device required by the claim. It is thus considered that claim 22 is in condition for allowance.

Claim 23 requires that the flexible airbag be located between the inner and outer walls of the hull. The Examiner took the position that Fig. 1 of Ryczek shows the bag between the inner and outer walls of the hull. Figure 1 is inconclusive as to this point.

The written text makes it clear, however, that the bags are carried in the several compartments of the ship. These compartments are described as being arranged in tiers within the ship. This does not imply between the inner and outer walls of the hull. In any event, it is not seen how the single embodiment of this reference can disclose the required features of both claims 22 and 23 wherein claim 22 requires that the bags be located on the interior of the hull and claim 23 requires that the bags be located between the inner and outer walls of the hull.

Regarding claims 24 and 25, the subject matter of original claim 3 was indicated as being allowable. The subject matter of claim 3 has been separated into claims 24 and 25. The patentability of claim 24 will stand or fall with the patentability of claim 20. The indication of patentability of claim 25 should remain in force as this claim recites the same feature which apparently made claim 3 allowable.

Claim 26 requires that the air compressor contains multiple overlapping impeller blades. This claim corresponds to original claim 6 wherein the rejection relied upon the Day patent in addition to Ryczek and Tuffier. For the reasons set forth above, it is considered that claim 20 is patentable. It is well-settled law that once a broad independent claim is patentable over the prior art, a narrow dependent claim is likewise patentable. See the decision of In re Fine, 5 USPQ2d 1596 (Fed. Cir. 1988), in this regard.

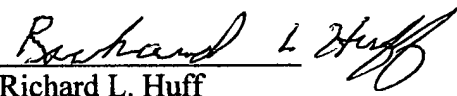
Claim 27 requires that the air compressor is connected by an axle to a clutch device which is attached to an axle from the vessel's engine. This claim corresponds to original claim 6 wherein the rejection relied upon the Gilbert patent in addition to Ryczek

and Tuffier. For the reasons set forth in the above paragraph, it is applicant's position that dependent claim 27 is patentable because independent claim 20 is patentable.

Present claims 28, 29, and 30 generally correspond with original claims 5, 6, and 8. Claims 5, 6, and 8 were indicated as being patentable over the cited prior art. It is considered that claims 28, 29, and 30 should likewise be considered patentable.

Claims 31-37 are dependent claims which directly or indirectly depend upon claim 30, the subject matter of which was indicated as being allowable. It is applicant's position that these narrower dependent claims should likewise be allowable.

Respectfully submitted,


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Version with markings to show changes made

[0067] In the second embodiment, a series of three-chambered main airbags **62** (a bag-within-a-bag-within-a-bag) having an inner chamber **64**, a central chamber **66**, and an outer chamber **68** along with smaller auxiliary inflatable bags **70** at the top of the main bags **62** is deployed on the diameter restrictor/gauge track **14** by the airbag securement latch device **40**. The bags **62**, **70** are deployed on the interior of the hull **54**. Upon activation, the compressor **4** forces air under pressure into the compression chamber **6**. The time valve **36** of the compression chamber **6** opens at designated time intervals which vary according to the size of the vessel **2**. Upon opening of the time valve **36**, air is sent through primary conduits **58** (pipes and/or hoses) to the inflatable bags **10**. The primary conduits **58** branch off into secondary conduits **60** which contain one-way valves. These valves prevent the loss of air in the remainder of the system in the event one bag **62**, **70** is ruptured. As shown in Fig. 30, the system having three-chambered bags **62** contains a series of inter-bag valves **72** which separate the chambers **64**, **66**, **68** from each other. These valves **72** permit the inner chambers **64** to be filled first as ports **74** to these chambers **64** are free. After the inner chamber **64** is pressurized to its maximum capacity, a butterfly valve (not shown) seals the port to the inner chamber **64** to shut off and lock this port so that no air can leave or enter the inner chamber **64** and all additional air from the compressor **4** is directed into the central **66** and outer [88] **68** chambers. The central **66** and outer **68** chambers also contain butterfly valves that seal the ports to these chambers **66**, **68** when maximum pressure is attained. These valves are spring loaded and are capable of reopening to allow the entrance of air if the pressure in the chambers **64**, **66**, **68** drops below the set maximum pressure. However, the entrance

ports 76, 78 to the central 66 and outer 68 chambers of the three-chambered bags 62 are later pressure-loaded to the maximum pressure setting of the inner chambers 64. After the maximum pressure setting of the inner chamber 64 is attained, a butterfly valve (not shown) seals the port 74 to the inner chamber 64 so that no air can leave or enter the inner chamber 64 and all additional air from the air compressor 4 is directed into the central chamber 66 and then into the main outer chamber 68. The central chamber 66 and the main outer chamber 68 possess reverse butterfly valves (not shown) which close when maximum pressure is attained. These valves may be reopened if the pressure within the controlled chamber 66, 68 drops below the maximum setting. These valves are electrically connected to the compressor 4 controls so that the compressor 4 may be shut down when all of the valves are closed and is opened when one or more of the valves is opened. Inflation of the inflatable bags 62, 64 adds buoyancy to the vessel 2 to keep it afloat. In the event rupture to the hull 54 has penetrated both the inner 50 and outer 52 wall of the hull 54, the pressure of a bag 62, 70 against the inner aspect of the inner wall 50 of the hull will tend to confine the water to the space between the inner 50 and outer 52 walls of the hull 54. In the event the outer chamber 68 of the main bag 62 ruptures, the presence of inflated central 66 and inner 64 chambers and auxiliary bags 70 will maintain pressure against the inner aspect of the inner wall 50 to continue to maintain pressure against the incoming water, and will tend to confine the incoming water to the space between the inner 50 and outer 52 walls of the hull 54.